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U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

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## COPPER IN NOVEMBER 1996

Average daily mine production, assuming 7-days-per-week operation, was essentially unchanged in November. Average daily primary refined production declined by about 8% from the record-high level in October owing to lower production from major refineries. Monthly consumption of refined copper declined by about 6% from October's high level, yet remained 15%, or 30,000 metric tons, above the November 1995 level. Owing to the continued drawing down of refined copper inventories held in LME warehouses, domestic copper stocks fell to their lowest level since August 1995. LME inventories first appeared in U.S. warehouses in July 1995 and reached a peak level in January 1996. Some of the LME inventory reduction was mitigated by a rise in Comex stocks. Comex prices averaged more than 2 cents per pound higher than LME prices during the first 10 months of 1996.

Following several months of relatively stable copper prices, price volatility returned to the copper market in November. In response to tight global supplies for refined copper, prices rose significantly in November, the Comex spot price rising to \$1.10 at month-end, the highest level since June, when prices plummeted following revelations of Sumitomo trading losses.

Copper prices softened again in December, with the Comex spot price briefly dipping below \$1.00 per pound at mid-month. Prices rallied again in January, the Comex spot price reaching \$1.11 during the third week and averaging \$1.08 for the month.

Arimetco International Inc., owners and operators of the Yerington Mine in Nevada and the Johnson Camp Mine in Arizona, announced at year-end that they had filed for reorganization under Chapter 11 of the U.S. Federal Bankruptcy Code. The company cited the compound impact of several problems as the source of their current financial crises including: "serious production problems" at its Yerington Mine that temporarily resulted in lower production and higher production costs; lower copper prices; and costs associated with maintaining and developing non-producing properties<sup>1</sup>. In its third quarter report, Arimetco reported a net loss of \$0.3 million for the quarter, compared with a net profit for the third quarter of 1995 of \$2.2 million.

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<sup>1</sup>Platt's Metals Week. Arimetco Files for Chapter 11. Jan. 1, 1997, p. 1.

TABLE 1  
SALIENT STATISTICS OF THE COPPER INDUSTRY IN THE UNITED STATES 1/

(Metric tons, unless noted)

|  | Source<br>table 2/ | 1995      | 1996       |          |                      |
|--|--------------------|-----------|------------|----------|----------------------|
|  |                    |           | October    | November | January-<br>November |
| Production:                                |                    |           |            |          |                      |
| Primary:                                   |                    |           |            |          |                      |
| Mine, recoverable                          | (2)                | 1,850,000 | 156,000    | 150,000  | 1,730,000            |
| Smelter 3/                                 | (3)                | 1,240,000 | 113,000    | 112,000  | 1,160,000            |
| Refinery:                                  |                    |           |            |          |                      |
| Electrolytic:                              |                    |           |            |          |                      |
| Domestic                                   | (4)                | 1,310,000 | 127,000    | 111,000  | 1,230,000            |
| Foreign                                    | (4)                | 77,300    | 3,790      | 3,030    | 86,400               |
| Electrowon                                 | (4)                | 539,000   | 51,600     | 48,000   | 524,000              |
| Total                                      | (4)                | 1,930,000 | 183,000    | 162,000  | 1,840,000            |
| Secondary recoverable copper:              |                    |           |            |          |                      |
| Refineries                                 | (5)                | 352,000   | 30,600     | 26,000   | 300,000              |
| Ingot makers 4/                            | (5)                | 124,000   | 10,300     | 10,300   | 114,000              |
| Brass and wire-rod mills                   | (5)                | 713,000   | 62,400     | 61,400   | 668,000              |
| Foundries, etc.                            | (5)                | 62,400    | 5,200      | 5,200    | 57,200               |
| Consumption:                               |                    |           |            |          |                      |
| Total apparent                             | (8)                | 2,540,000 | 224,000    | NA       | NA                   |
| Refined (reported)                         | (7)                | 2,530,000 | 244,000 r/ | 229,000  | 2,430,000            |
| Purchased copper-base scrap                | (9)                | 1,650,000 | 145,000 r/ | 138,000  | 1,520,000            |
| Stocks at end of period:                   |                    |           |            |          |                      |
| Total refined                              | (11)               | 163,000   | 138,000    | 126,000  | XX                   |
| Blister, etc.                              | (11)               | 174,000   | 163,000    | 168,000  | XX                   |
| Prices:                                    |                    |           |            |          |                      |
| U.S. producer cathode<br>(cents per pound) | (12)               | 138.333   | 96.873     | 104.097  | 109.493              |
| Imports:                                   |                    |           |            |          |                      |
| Ores and concentrates 5/                   | (14)               | 127,000   | 6,270      | NA       | NA                   |
| Refined                                    | (14)               | 429,000   | 46,100     | NA       | NA                   |
| Exports:                                   |                    |           |            |          |                      |
| Ores and concentrates 5/                   | (15)               | 239,000   | 27,100     | NA       | NA                   |
| Refined                                    | (15)               | 217,000   | 16,400     | NA       | NA                   |

r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits, except prices; may not add to totals shown.

2/ Numbers in parentheses refer to the detailed tables where these data are located.

3/ From domestic and foreign ores.

4/ 1996 monthly data estimated based on 1995 monthly average.

5/ Copper content.

TABLE 2  
MINE PRODUCTION OF RECOVERABLE COPPER IN THE UNITED STATES 1/

(Metric tons)

| State     | 1995    |          |          |            | 1996    |          |         |           |
|-----------|---------|----------|----------|------------|---------|----------|---------|-----------|
|           | October | November | December | Year total | January | February | March   | April     |
| Arizona   | 104,000 | 101,000  | 105,000  | 1,170,000  | 104,000 | 93,000   | 108,000 | 103,000   |
| Others 2/ | 51,000  | 46,200   | 45,700   | 682,000    | 50,500  | 47,900   | 55,800  | 53,900 r/ |
| Total     | 155,000 | 148,000  | 151,000  | 1,850,000  | 155,000 | 141,000  | 164,000 | 157,000   |

  

| State     | 1996    |         |           |            |           |           |          |             |
|-----------|---------|---------|-----------|------------|-----------|-----------|----------|-------------|
|           | May     | June    | July      | August     | September | October   | November | Jan. - Nov. |
| Arizona   | 107,000 | 106,000 | 104,000   | 106,000    | 100,000   | 97,000 r/ | 94,900   | 1,120,000   |
| Others 2/ | 53,700  | 56,100  | 57,400 r/ | 58,900 r/  | 58,200    | 59,300 r/ | 55,200   | 607,000     |
| Total     | 161,000 | 163,000 | 161,000   | 165,000 r/ | 158,000   | 156,000   | 150,000  | 1,730,000   |

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes production from California, Idaho, Michigan, Missouri, Montana, Nevada, New Mexico, Utah, and Wisconsin.

TABLE 3  
COPPER 1/ PRODUCED AT SMELTERS IN THE UNITED STATES, BY SOURCE 2/

(Metric tons, copper content)

| Period     | Domestic and foreign ores | Scrap   | Total     |
|------------|---------------------------|---------|-----------|
| 1995:      |                           |         |           |
| November   | 105,000                   | 33,700  | 139,000   |
| December   | 106,000                   | 35,100  | 141,000   |
| Jan.-Nov.  | 1,140,000                 | 323,000 | 1,460,000 |
| Year total | 1,240,000                 | 358,000 | 1,600,000 |
| 1996:      |                           |         |           |
| January    | 113,000                   | 29,200  | 142,000   |
| February   | 108,000                   | 29,800  | 138,000   |
| March      | 101,000                   | 33,300  | 134,000   |
| April      | 105,000                   | 28,200  | 133,000   |
| May        | 94,300                    | 30,600  | 125,000   |
| June       | 104,000                   | 30,400  | 134,000   |
| July       | 103,000                   | 32,300  | 136,000   |
| August     | 97,200                    | 29,100  | 126,000   |
| September  | 106,000                   | 31,500  | 138,000   |
| October    | 113,000                   | 33,200  | 146,000   |
| November   | 112,000                   | 29,000  | 141,000   |
| Jan.-Nov.  | 1,160,000                 | 337,000 | 1,490,000 |

1/ Includes blister, anode and black copper from primary or secondary sources.

2/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 4  
PRODUCTION OF REFINED COPPER, BY SOURCE AND METHOD OF RECOVERY 1/

(Metric tons)

| Period     | Primary materials           |         |            |           | Scrap                       |              |         | Total refined |
|------------|-----------------------------|---------|------------|-----------|-----------------------------|--------------|---------|---------------|
|            | Electrolytically refined 2/ |         | Electrowon | Total     | Electrolytically refined 2/ | Fire refined | Total   |               |
|            | Domestic 3/                 | Foreign |            |           |                             |              |         |               |
| 1995:      |                             |         |            |           |                             |              |         |               |
| November   | 116,000                     | 6,330   | 49,600     | 172,000   | 16,100                      | 12,900       | 29,000  | 201,000       |
| December   | 112,000                     | 7,340   | 50,700     | 170,000   | 16,000                      | 11,100       | 27,100  | 197,000       |
| Jan.-Nov.  | 1,200,000                   | 69,900  | 489,000    | 1,760,000 | 197,000                     | 126,000      | 324,000 | 2,080,000     |
| Year total | 1,310,000                   | 77,300  | 539,000    | 1,930,000 | 215,000                     | 137,000      | 352,000 | 2,280,000     |
| 1996:      |                             |         |            |           |                             |              |         |               |
| January    | 117,000                     | 11,300  | 47,500     | 176,000   | 14,300                      | 13,400       | 27,700  | 204,000       |
| February   | 107,000                     | 9,990   | 43,500     | 161,000   | 13,700                      | 12,800       | 26,400  | 187,000       |
| March      | 112,000                     | 9,570   | 45,900     | 168,000   | 14,200                      | 14,000       | 28,200  | 196,000       |
| April      | 115,000                     | 9,790   | 47,400     | 173,000   | 14,200                      | 10,400       | 24,700  | 197,000       |
| May        | 112,000                     | 9,500   | 50,700     | 172,000   | 16,900                      | 12,700       | 29,600  | 202,000       |
| June       | 98,800                      | 5,180   | 48,300     | 152,000   | 17,300                      | 13,700       | 30,900  | 183,000       |
| July       | 115,000                     | 8,090   | 48,200     | 172,000   | 18,100                      | 6,310        | 24,400  | 196,000       |
| August     | 107,000                     | 7,370   | 47,100     | 161,000   | 14,000                      | 11,000       | 25,000  | 186,000       |
| September  | 109,000                     | 8,820   | 45,900     | 163,000   | 12,900                      | 13,900       | 26,800  | 190,000       |
| October    | 127,000                     | 3,790   | 51,600     | 183,000   | 17,100                      | 13,500       | 30,600  | 213,000       |
| November   | 111,000                     | 3,030   | 48,000     | 162,000   | 15,000                      | 10,900       | 26,000  | 188,000       |
| Jan.-Nov.  | 1,230,000                   | 86,400  | 524,000    | 1,840,000 | 168,000                     | 133,000      | 300,000 | 2,140,000     |

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Based on source of material at smelter level.

3/ Includes fire-refined copper.

TABLE 5  
COPPER RECOVERABLE IN UNALLOYED AND ALLOYED FORM FROM PURCHASED COPPER-BASED SCRAP 1/

(Metric tons, copper content)

| Period     | Refineries 2/ |           | Ingot makers 3/ |           | Brass and wire-rod mills |           | Foundries, etc. 4/ |           | Total 5/  |
|------------|---------------|-----------|-----------------|-----------|--------------------------|-----------|--------------------|-----------|-----------|
|            | New scrap     | Old scrap | New scrap       | Old scrap | New scrap                | Old scrap | New scrap          | Old scrap |           |
| 1995:      |               |           |                 |           |                          |           |                    |           |           |
| November   | 10,100        | 18,900    | 2,890           | 7,440     | 54,600                   | 3,650     | 2,240              | 2,960     | 103,000   |
| December   | 8,870         | 18,200    | 2,890           | 7,440     | 45,400                   | 3,650     | 2,240              | 2,960     | 91,700    |
| Jan.- Nov. | 103,000       | 222,000   | 31,800          | 81,800    | 618,000                  | 45,600    | 24,600             | 32,600    | 1,160,000 |
| Year total | 112,000       | 240,000   | 34,700          | 89,200    | 664,000                  | 49,300    | 26,900             | 35,600    | 1,250,000 |
| 1996:      |               |           |                 |           |                          |           |                    |           |           |
| January    | 11,100        | 16,600    | 2,890           | 7,440     | 59,400                   | 3,350     | 2,240              | 2,960     | 106,000   |
| February   | 9,790         | 16,600    | 2,890           | 7,440     | 54,000                   | 2,980     | 2,240              | 2,960     | 99,000    |
| March      | 11,100        | 17,200    | 2,890           | 7,440     | 57,600                   | 2,660     | 2,240              | 2,960     | 104,000   |
| April      | 8,200         | 16,500    | 2,890           | 7,440     | 57,400                   | 4,240     | 2,240              | 2,960     | 102,000   |
| May        | 10,000        | 19,600    | 2,890           | 7,440     | 60,100                   | 4,230     | 2,240              | 2,960     | 109,000   |
| June       | 10,900        | 20,000    | 2,890           | 7,440     | 58,700                   | 4,960     | 2,240              | 2,960     | 110,000   |
| July       | 6,010         | 18,400    | 2,890           | 7,440     | 51,500                   | 3,880     | 2,240              | 2,960     | 95,300    |
| August     | 8,310         | 16,700    | 2,890           | 7,440     | 56,700                   | 3,870     | 2,240              | 2,960     | 101,000   |
| September  | 10,300        | 16,500    | 2,890           | 7,440     | 55,300                   | 3,850     | 2,240              | 2,960     | 101,000   |
| October    | 10,900        | 19,800    | 2,890           | 7,440     | 58,700                   | 3,640     | 2,240              | 2,960     | 109,000   |
| November   | 8,730         | 17,200    | 2,890           | 7,440     | 56,800                   | 4,580     | 2,240              | 2,960     | 103,000   |
| Jan.- Nov. | 105,000       | 195,000   | 31,800          | 81,800    | 626,000                  | 42,300    | 24,600             | 32,600    | 1,140,000 |

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Electrolytically refined and fire-refined scrap based on source of material at smelter level.

3/ Data no longer collected monthly; 1995 and 1996 data estimated based on 1995 annual data.

4/ Estimate based on 1995 annual data.

5/ Does not include an estimate, based on reported 1995 data, of 3,100 tons per month from new scrap and 2,330 tons per month from old scrap of copper recovered from scrap other than copper-base.

TABLE 6  
PRODUCTION, SHIPMENTS, AND STOCKS OF BRASS AND WIRE-ROD MILL SEMIFABRICATES 1/

(Metric tons, gross weight)

| Period     | Production  |                | Shipments   |                | Stocks, end of period |                |
|------------|-------------|----------------|-------------|----------------|-----------------------|----------------|
|            | Brass mills | Wire rod mills | Brass mills | Wire rod mills | Brass mills           | Wire rod mills |
| 1995:      |             |                |             |                |                       |                |
| November   | 113,000     | 143,000        | 118,000     | 141,000        | 46,400                | 67,300         |
| December   | 105,000     | 134,000        | 98,600      | 132,000        | 52,500                | 69,100         |
| Jan.- Nov. | 1,310,000   | 1,680,000      | 1,330,000   | 1,690,000      | XX                    | XX             |
| Year total | 1,420,000   | 1,820,000      | 1,430,000   | 1,820,000      | XX                    | XX             |
| 1996:      |             |                |             |                |                       |                |
| January    | 120,000     | 144,000        | 122,000     | 146,000        | 50,100                | 67,100         |
| February   | 128,000     | 153,000        | 130,000     | 157,000        | 48,800                | 63,500         |
| March      | 144,000     | 171,000        | 142,000     | 160,000        | 51,300                | 74,300         |
| April      | 131,000     | 157,000        | 133,000     | 175,000        | 49,400                | 55,800         |
| May        | 130,000     | 173,000        | 129,000     | 165,000        | 51,000                | 63,200         |
| June       | 136,000     | 163,000        | 132,000     | 151,000        | 54,900                | 75,200         |
| July       | 114,000     | 139,000        | 116,000     | 152,000        | 52,300                | 62,900         |
| August     | 130,000     | 142,000        | 133,000     | 156,000        | 49,700                | 48,500         |
| September  | 135,000     | 163,000        | 136,000     | 158,000        | 48,900                | 53,200         |
| October    | 139,000 r/  | 180,000        | 139,000 r/  | 184,000        | 48,900 r/             | 50,100         |
| November   | 136,000     | 175,000        | 135,000     | 170,000        | 49,400                | 54,700         |
| Jan.- Nov. | 1,440,000   | 1,760,000      | 1,450,000   | 1,780,000      | XX                    | XX             |

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 7  
CONSUMPTION OF REFINED COPPER 1/

(Metric tons)

| Period and item       | Wire rod mills | Brass mills 2/ | Other plants 3/ | Total      |
|-----------------------|----------------|----------------|-----------------|------------|
| 1995:                 |                |                |                 |            |
| November              | 150,000        | 44,400         | 4,630           | 199,000    |
| December              | 132,000        | 40,700         | 4,630           | 177,000    |
| Jan.-Nov.             | 1,810,000      | 492,000        | 51,000          | 2,360,000  |
| Year total            | 1,950,000      | 533,000        | 55,600          | 2,530,000  |
| 1996:                 |                |                |                 |            |
| January               | 154,000 r/     | 45,100         | 4,630           | 204,000 r/ |
| February              | 165,000 r/     | 47,200         | 4,630           | 216,000 r/ |
| March                 | 181,000 r/     | 56,400         | 4,630           | 242,000 r/ |
| April                 | 162,000 r/     | 47,500         | 4,630           | 214,000 r/ |
| May                   | 184,000 r/     | 47,500         | 4,630           | 236,000 r/ |
| June                  | 164,000 r/     | 49,600         | 4,630           | 218,000 r/ |
| July                  | 147,000 r/     | 43,600         | 4,630           | 195,000 r/ |
| August                | 154,000 r/     | 50,700         | 4,630           | 209,000 r/ |
| September             | 162,000 r/     | 55,300 r/      | 4,630           | 222,000 r/ |
| October               | 185,000        | 54,100 r/      | 4,630           | 244,000 r/ |
| November:             |                |                |                 |            |
| Cathodes              | 177,000        | 30,900         | 1,120           | 209,000    |
| Wire bars             | --             | W              | W               | W          |
| Ingots and ingot bars | --             | 1,610          | 1,660           | 3,270      |
| Cakes and slabs       | --             | 4,230          | W               | 4,230      |
| Billets and other     | --             | 11,300         | 1,860           | 13,200     |
| Total                 | 177,000        | 48,000         | 4,630           | 229,000    |
| Jan.-Nov.             | 1,830,000      | 545,000        | 51,000          | 2,430,000  |

r/Revised. W Withheld to avoid disclosing company proprietary data; included in "Billets and other."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ In 1995, brass mills consumed 2,210 tons of refined lead, 706 tons of pig tin, 3,870 tons of refined nickel, and 64,100 tons of slab zinc.

3/ Monthly consumption by ingot makers, chemical plants, foundries, and miscellaneous manufacturers; estimated based on 1995 annual data.

TABLE 8  
U.S. APPARENT CONSUMPTION OF COPPER 1/

(Metric tons)

| Period     | Refined copper production | Copper in old scrap 2/ | Net refined imports | Stock change during period | Apparent consumption |
|------------|---------------------------|------------------------|---------------------|----------------------------|----------------------|
| 1995:      |                           |                        |                     |                            |                      |
| November   | 172,000                   | 35,300                 | 31,900              | 5,380                      | 234,000              |
| December   | 170,000                   | 34,600                 | 30,800              | 30,900                     | 205,000              |
| Jan.-Oct.  | 1,590,000                 | 373,000                | 149,000             | 8,250                      | 2,100,000            |
| Year total | 1,930,000                 | 442,000                | 211,000             | 44,500                     | 2,540,000            |
| 1996:      |                           |                        |                     |                            |                      |
| January    | 176,000                   | 32,700                 | 29,400              | 28,600                     | 210,000              |
| February   | 161,000                   | 32,300                 | 24,800              | (21,400)                   | 239,000              |
| March      | 168,000                   | 32,600                 | 35,500              | (7,120)                    | 243,000              |
| April      | 173,000                   | 33,400                 | 37,300              | 10,800                     | 232,000              |
| May        | 172,000                   | 36,500                 | 46,000              | (26,400)                   | 281,000              |
| June       | 152,000                   | 37,700                 | 33,900              | (7,580)                    | 232,000              |
| July       | 172,000                   | 35,000                 | 38,000              | 23,200                     | 222,000              |
| August     | 161,000                   | 33,300                 | 47,100              | (6,850)                    | 248,000              |
| September  | 163,000                   | 33,100                 | 47,800              | (13,000)                   | 257,000              |
| October    | 183,000                   | 36,100                 | 29,700              | (4,970)                    | 254,000              |
| November   | 162,000                   | 34,500                 | NA                  | (12,500)                   | NA                   |
| Jan.-Oct.  | 1,680,000                 | 343,000                | 370,000             | (24,700)                   | 2,420,000            |

NA Not available.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes reported monthly production of copper from old scrap of copper-base and of non-copper-base materials and estimates for annual reporters based on 1995 data.

TABLE 9  
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP 1/

(Metric tons, gross weight)

| Period     | Smelters<br>and refineries |           | Ingot makers 2/ |           | Brass and<br>wire-rod mills 3/ |           | Foundries, etc. e/ |           | Total scrap<br>used |
|------------|----------------------------|-----------|-----------------|-----------|--------------------------------|-----------|--------------------|-----------|---------------------|
|            | New scrap 2/               | Old scrap | New scrap       | Old scrap | New scrap                      | Old scrap | New scrap          | Old scrap |                     |
| 1995:      |                            |           |                 |           |                                |           |                    |           |                     |
| November   | 12,300                     | 29,400    | 3,870           | 11,300    | 68,300                         | 4,380     | 2,570              | 3,390     | 136,000             |
| December   | 10,100                     | 32,100    | 3,870           | 11,300    | 57,100                         | 4,460     | 2,570              | 3,390     | 125,000             |
| Jan.- Nov. | 118,000                    | 353,000   | 42,500          | 124,000   | 770,000                        | 54,900    | 28,300             | 37,300    | 1,530,000           |
| Year total | 128,000                    | 385,000   | 46,400          | 136,000   | 827,000                        | 59,400    | 30,800             | 40,600    | 1,650,000           |
| 1996:      |                            |           |                 |           |                                |           |                    |           |                     |
| January    | 12,600                     | 26,600    | 3,870           | 11,300    | 74,300                         | 4,100     | 2,570              | 3,390     | 139,000             |
| February   | 10,700                     | 28,200    | 3,870           | 11,300    | 68,200                         | 3,830     | 2,570              | 3,390     | 132,000             |
| March      | 11,700                     | 32,200    | 3,870           | 11,300    | 72,300                         | 3,570     | 2,570              | 3,390     | 141,000             |
| April      | 9,680                      | 26,800    | 3,870           | 11,300    | 71,900                         | 5,000     | 2,570              | 3,390     | 134,000             |
| May        | 10,800                     | 31,400    | 3,870           | 11,300    | 75,500                         | 5,100     | 2,570              | 3,390     | 144,000             |
| June       | 13,200                     | 36,300    | 3,870           | 11,300    | 73,500                         | 5,990     | 2,570              | 3,390     | 150,000             |
| July       | 8,120                      | 27,900    | 3,870           | 11,300    | 65,500                         | 4,790     | 2,570              | 3,390     | 127,000             |
| August     | 10,000                     | 28,300    | 3,870           | 11,300    | 72,000                         | 4,880     | 2,570              | 3,390     | 136,000             |
| September  | 12,700                     | 27,000    | 3,870           | 11,300    | 70,100                         | 5,010     | 2,570              | 3,390     | 136,000             |
| October    | 11,600                     | 33,500    | 3,870           | 11,300    | 74,400 r/                      | 4,510     | 2,570              | 3,390     | 145,000 r/          |
| November   | 10,700                     | 29,000    | 3,870           | 11,300    | 72,000                         | 5,530     | 2,570              | 3,390     | 138,000             |
| Jan.- Nov. | 122,000                    | 327,000   | 42,500          | 124,000   | 790,000                        | 52,300    | 28,300             | 37,300    | 1,520,000           |

e/ Estimated. r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data for 1995 and 1996 are estimated from 1995 annual data.

3/ Consumption at brass and wire-rod mills assumed equal to receipts.

TABLE 10  
CONSUMPTION OF PURCHASED COPPER-BASE SCRAP 1/ 2/

(Metric tons, gross weight)

| Scrap type and processor     | 1995      |            | 1996      |           |          |           |
|------------------------------|-----------|------------|-----------|-----------|----------|-----------|
|                              | Jan.-Nov. | Year total | September | October   | November | Jan.-Nov. |
| No. 1 wire and heavy:        |           |            |           |           |          |           |
| Smelters and refiners        | 149,000   | 161,000    | 14,600    | 14,300    | 11,900   | 139,000   |
| Brass and wire-rod mills     | 350,000   | 375,000    | 27,300    | 31,200 r/ | 30,800   | 332,000   |
| No. 2 mixed heavy and light: |           |            |           |           |          |           |
| Smelters and refiners        | 205,000   | 225,000    | 14,500    | 20,300    | 16,800   | 194,000   |
| Brass and wire-rod mills     | 31,100    | 33,400     | 3,070     | 2,500     | 2,500    | 32,400    |
| Total unalloyed scrap:       |           |            |           |           |          |           |
| Smelters and refiners        | 354,000   | 386,000    | 29,100    | 34,700    | 28,700   | 333,000   |
| Brass mills                  | 381,000   | 408,000    | 30,400    | 33,700    | 33,300   | 364,000   |
| Red brass: 3/                |           |            |           |           |          |           |
| All plants                   | 60,900    | 66,200     | 5,400     | 5,430     | 5,430    | 59,900    |
| Leaded yellow brass:         |           |            |           |           |          |           |
| All plants                   | 341,000   | 367,000    | 33,700    | 36,200    | 33,800   | 371,000   |
| Yellow and low brass:        |           |            |           |           |          |           |
| Smelters and refiners        | (4/)      | (4/)       | (4/)      | (4/)      | (4/)     | (4/)      |
| Brass mills                  | 42,900    | 47,500     | 4,400     | 4,020     | 4,020    | 46,800    |
| Cartridge cases and brass:   |           |            |           |           |          |           |
| Smelters and refiners        | --        | --         | --        | --        | --       | --        |
| Brass mills                  | 46,000    | 49,400     | 3,750     | 3,860     | 3,860    | 41,300    |
| Auto radiators:              |           |            |           |           |          |           |
| Smelters and refiners        | 66,900    | 73,000     | 6,080     | 6,080     | 6,080    | 66,900    |
| Bronzes:                     |           |            |           |           |          |           |
| Smelters and refiners        | --        | --         | --        | --        | --       | --        |
| Brass mills                  | 10,700    | 11,300     | 868       | 1,030     | 1,070    | 10,200    |
| Nickel-copper alloys:        |           |            |           |           |          |           |
| Smelters and refiners        | --        | --         | --        | --        | --       | --        |
| Brass mills                  | 16,300    | 17,700     | 3,380     | 1,250     | 1,400    | 20,900    |
| Low grade & residues:        |           |            |           |           |          |           |
| Smelters and refiners        | 84,100    | 91,800     | 7,620     | 7,360     | 7,940    | 81,500    |
| Other alloy scrap: 5/        |           |            |           |           |          |           |
| Smelters and refiners        | 36,600    | 39,700     | 3,290     | 3,380     | 3,350    | 37,800    |
| Brass mills                  | 3,610     | 3,920      | 309       | 460 r/    | 357      | 4,090     |
| Total alloyed scrap:         |           |            |           |           |          |           |
| Smelters and refiners        | 284,000   | 310,000    | 25,800    | 25,600    | 26,200   | 283,000   |
| Brass mills                  | 443,000   | 478,000    | 44,700    | 45,200    | 44,000   | 477,000   |
| Total scrap:                 |           |            |           |           |          |           |
| Smelters and refiners        | 638,000   | 695,000    | 54,900    | 60,300    | 54,800   | 616,000   |
| Brass and wire-rod mills     | 825,000   | 886,000    | 75,100    | 78,900 r/ | 77,300   | 842,000   |

r/ Revised.

1/ Does not include: consumption by foundries, chemical plants and miscellaneous manufacturers, estimated to total about 6,000 tons of scrap per month in 1995; consumption of home scrap at brass mills which averaged 57,200 tons per month in 1995. Monthly data include estimates of about 30,000 tons of scrap per month consumed by ingot makers and several smelters that report only on an annual basis.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ Includes composition turnings, silicon bronze, zincy bronze, railroad car boxes, cocks and faucets, gilding metal and commercial bronze.

4/ Withheld to avoid disclosing company proprietary data; included in "Other alloy scrap."

5/ Includes refinery brass, beryllium copper, phosphor copper and aluminum bronze.

TABLE 11  
COPPER STOCKS AT END OF PERIOD 1/

(Metric tons)

| Period    | Crude copper 2/ | Refined copper |                   |                |          |          | LME 6/ | Total refined |
|-----------|-----------------|----------------|-------------------|----------------|----------|----------|--------|---------------|
|           |                 | Refineries 3/  | Wire rod mills 3/ | Brass mills 3/ | Other 4/ | Comex 5/ |        |               |
| 1995:     |                 |                |                   |                |          |          |        |               |
| November  | 170,000         | 37,900         | 26,700            | 11,700         | 3,540    | 4,900    | 47,500 | 132,000       |
| December  | 174,000         | 38,000         | 24,800            | 7,110          | 3,540    | 21,500   | 68,200 | 163,000       |
| 1996:     |                 |                |                   |                |          |          |        |               |
| January   | 172,000         | 35,700         | 34,500            | 10,400         | 3,540    | 11,000   | 96,700 | 192,000       |
| February  | 177,000         | 31,700         | 22,600            | 11,200         | 3,540    | 11,700   | 89,600 | 170,000       |
| March     | 153,000         | 33,800         | 19,500            | 9,820          | 3,540    | 12,600   | 84,000 | 163,000       |
| April     | 171,000         | 35,600         | 25,500            | 11,300         | 3,540    | 18,800   | 79,400 | 174,000       |
| May       | 166,000         | 35,500         | 19,200            | 9,840          | 3,540    | 12,000   | 67,500 | 148,000       |
| June      | 162,000         | 33,500         | 13,100            | 12,600         | 3,540    | 6,880    | 70,400 | 140,000       |
| July      | 154,000         | 41,700         | 29,700            | 13,400         | 3,540    | 16,100   | 58,700 | 163,000       |
| August    | 159,000         | 34,000         | 25,800            | 13,400         | 3,540    | 20,100   | 59,600 | 156,000       |
| September | 161,000         | 32,400         | 19,400            | 12,500         | 3,540    | 19,700   | 56,000 | 143,000       |
| October   | 163,000         | 33,900         | 31,000            | 12,400         | 3,540    | 28,600   | 29,200 | 138,000       |
| November  | 168,000         | 33,400         | 30,500            | 11,700         | 3,540    | 26,000   | 20,900 | 126,000       |

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Copper content of blister and other materials in transit and in process of refining.

3/ Stocks of refined copper as reported; no estimates are made for non-respondents.

4/ Monthly estimates based on reported and 1995 annual data, comprising stocks at secondary smelters, chemical plants, foundries, and miscellaneous manufacturers.

5/ Commodity Exchange Inc., New York.

6/ London Metal Exchange Ltd., U.S. warehouses.

TABLE 12  
AVERAGE PRICE OF COPPER IN THE UNITED STATES AND  
ON THE LONDON METAL EXCHANGE

(Cents per pound)

| Period    | U.S. producers delivered price |            | Comex first position 3/ | L.M.E. cash price Grade A |
|-----------|--------------------------------|------------|-------------------------|---------------------------|
|           | Cathode 1/                     | Wirebar 2/ |                         |                           |
| 1995:     |                                |            |                         |                           |
| October   | 131.380                        | 139.995    | 127.996                 | 127.582                   |
| November  | 139.860                        | 148.500    | 136.500                 | 134.986                   |
| December  | 135.103                        | 143.778    | 131.778                 | 132.683                   |
| Average   | 138.333                        | 146.724    | 134.717                 | 133.122                   |
| 1996:     |                                |            |                         |                           |
| January   | 121.431                        | 130.090    | 118.091                 | 118.622                   |
| February  | 120.020                        | 128.668    | 116.668                 | 115.077                   |
| March     | 121.540                        | 130.200    | 118.200                 | 116.140                   |
| April     | 122.628                        | 131.286    | 119.286                 | 117.707                   |
| May       | 126.667                        | 135.327    | 123.327                 | 120.527                   |
| June      | 107.828                        | 116.538    | 104.488                 | 98.447                    |
| July      | 94.007                         | 102.693    | 90.667                  | 90.006                    |
| August    | 95.479                         | 104.139    | 92.139                  | 91.072                    |
| September | 93.848                         | 102.623    | 90.508                  | 88.026                    |
| October   | 96.873                         | 105.533    | 95.533                  | 88.935                    |
| November  | 104.097                        | 112.776    | 100.776                 | 101.149                   |
| Average   | 109.493                        | 118.170    | 106.335                 | 104.155                   |

1/ Listed as "U.S. producer cathode."

2/ Listed as "Electrolytic wirebar (Warrenton Refining Co.)."

3/ Listed as "Comex high grade first position."

Sources: Platt's Metals Week and American Metal Market.



TABLE 13  
NEW YORK AVERAGE BUYING PRICES FOR COPPER SCRAP

(Cents per pound)

| Month     | Brass mills<br>No. 1 scrap | Refiners<br>No. 2 scrap | Dealers (New York) |                                   |
|-----------|----------------------------|-------------------------|--------------------|-----------------------------------|
|           |                            |                         | No. 2 scrap        | Red brass turnings<br>and borings |
| 1995:     |                            |                         |                    |                                   |
| November  | 125.91                     | 106.96                  | 91.80              | 66.00                             |
| December  | 120.89                     | 103.96                  | 92.00              | 66.00                             |
| Average   | 123.28                     | 104.73                  | 91.26              | 63.38                             |
| 1996:     |                            |                         |                    |                                   |
| January   | 112.46                     | 95.09                   | 87.98              | 57.86                             |
| February  | 111.85                     | 93.83                   | 89.75              | 57.00                             |
| March     | 113.06                     | 96.54                   | 92.53              | 57.66                             |
| April     | 114.20                     | 96.99                   | 84.43              | 58.00                             |
| May       | 116.25                     | 97.10                   | 84.59              | 57.84                             |
| June      | 96.95                      | 83.00                   | 77.85              | 55.35                             |
| July      | 88.58                      | 69.76                   | 64.43              | 46.79                             |
| August    | 90.85                      | 73.93                   | 64.00              | 46.09                             |
| September | 88.69                      | 72.56                   | 64.00              | 46.00                             |
| October   | 89.21                      | 73.04                   | 64.00              | 46.00                             |
| November  | 97.04                      | 79.22                   | 64.63              | 46.63                             |
| Average   | 101.74                     | 84.64                   | 76.20              | 52.29                             |

Source: American Metal Market.

TABLE 14  
U.S. IMPORTS FOR CONSUMPTION OF COPPER (UNMANUFACTURED), BY CLASS 1/

(Metric tons, copper content)

| Country or<br>territory | Ore and concentrate |       |           | Matte, ash and precipitates |      |           | Blister and anodes |       |           | Refined |        |           |
|-------------------------|---------------------|-------|-----------|-----------------------------|------|-----------|--------------------|-------|-----------|---------|--------|-----------|
|                         | 1996                |       |           | 1996                        |      |           | 1996               |       |           | 1996    |        |           |
|                         | 1995                | Oct.  | Jan.-Oct. | 1995                        | Oct. | Jan.-Oct. | 1995               | Oct.  | Jan.-Oct. | 1995    | Oct.   | Jan.-Oct. |
| Brazil                  | --                  | --    | --        | --                          | --   | --        | --                 | --    | --        | 15,500  | --     | 13,600    |
| Canada                  | (2/)                | --    | 8,980     | 590                         | --   | 212       | 40,000             | 134   | 3,620     | 283,000 | 32,000 | 298,000   |
| Chile                   | 80,400              | 6,250 | 58,700    | --                          | --   | --        | 38,000             | 2,450 | 42,900    | 29,100  | 8,560  | 88,400    |
| Germany                 | --                  | --    | --        | --                          | --   | --        | --                 | --    | --        | 12,300  | (2/)   | 17        |
| Japan                   | --                  | --    | --        | 4                           | --   | --        | (2/)               | --    | (2/)      | 7,740   | 394    | 3,030     |
| Malaysia                | --                  | --    | --        | 55                          | --   | 79        | --                 | --    | --        | --      | --     | --        |
| Mexico                  | 11,700              | 21    | 3,680     | 2,190                       | 116  | 1,700     | 2,350              | --    | 18,800    | 58,600  | 1,600  | 28,800    |
| Peru                    | 34,900              | --    | --        | --                          | --   | --        | 10,400             | 618   | 6,950     | 9,860   | 3,560  | 57,500    |
| Russia                  | --                  | --    | --        | --                          | --   | --        | --                 | --    | --        | 11,600  | --     | 14,600    |
| Spain                   | --                  | --    | --        | --                          | --   | --        | 3,260              | --    | 2,530     | --      | --     | --        |
| Taiwan                  | --                  | --    | --        | 1                           | (2/) | 23        | --                 | --    | --        | --      | (2/)   | (2/)      |
| Other                   | 2                   | --    | 3         | 13                          | --   | 1         | --                 | --    | 649       | 620     | 22     | 6,400     |
| Total                   | 127,000             | 6,270 | 71,300    | 2,860                       | 116  | 2,020     | 94,100             | 3,200 | 75,400    | 429,000 | 46,100 | 511,000   |

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 15  
U.S. EXPORTS OF COPPER (UNMANUFACTURED), BY CLASS 1/

(Metric tons, copper content)

| Country or<br>territory | Ore and concentrate |        |           | Matte, ash and precipitates |       |           | Blister and anodes |       |           | Refined |        |           |
|-------------------------|---------------------|--------|-----------|-----------------------------|-------|-----------|--------------------|-------|-----------|---------|--------|-----------|
|                         | 1996                |        |           | 1996                        |       |           | 1996               |       |           | 1996    |        |           |
|                         | 1995                | Oct.   | Jan.-Oct. | 1995                        | Oct.  | Jan.-Oct. | 1995               | Oct.  | Jan.-Oct. | 1995    | Oct.   | Jan.-Oct. |
| Belgium                 | 1,980               | --     | --        | 1,330                       | --    | 3         | 81                 | --    | 239       | 2,260   | 3      | 40        |
| Canada                  | 123,000             | 5,700  | 73,200    | 30,400                      | 1,500 | 29,200    | 24,800             | 1,160 | 16,300    | 22,900  | 2,480  | 24,600    |
| China                   | 37,100              | --     | 51,800    | 17                          | --    | 2         | 211                | --    | 44        | 5,130   | 224    | 233       |
| Germany                 | --                  | 3      | 75        | 152                         | --    | 1         | 84                 | 39    | 424       | 629     | 31     | 140       |
| Ghana                   | --                  | --     | --        | --                          | --    | 9         | 43                 | 44    | 47        | --      | --     | 25        |
| Hong Kong               | --                  | --     | 16        | 48                          | --    | 29        | 650                | 276   | 648       | 4,710   | 14     | 505       |
| Italy                   | --                  | --     | 8         | --                          | --    | --        | 245                | --    | 426       | 1,580   | --     | 2,150     |
| Japan                   | 53,500              | 17,000 | 28,000    | 1,880                       | 94    | 1,950     | 363                | --    | 390       | 52,800  | 2,200  | 27,600    |
| Korea, Republic of      | 5,520               | --     | 2         | 10                          | --    | 15        | 1,440              | --    | 420       | 11,200  | 522    | 3,280     |
| Malaysia                | --                  | --     | --        | --                          | --    | --        | --                 | --    | (2/)      | 4,110   | 221    | 5,840     |
| Mexico                  | 160                 | --     | 2,340     | 763                         | 566   | 1,940     | 219                | 66    | 363       | 2,710   | 794    | 4,720     |
| Peru                    | 1,180               | --     | 1,750     | 9                           | --    | --        | --                 | --    | --        | --      | --     | 129       |
| Philippines             | 16,000              | --     | --        | --                          | --    | --        | 20                 | --    | 17        | 3       | --     | --        |
| Singapore               | 5                   | --     | --        | 18                          | 1     | 1         | 39                 | --    | 40        | 12,700  | --     | 1,380     |
| Spain                   | --                  | 2,800  | 2,800     | --                          | --    | 6         | 2                  | --    | --        | --      | --     | 7         |
| Taiwan                  | --                  | --     | --        | 201                         | --    | --        | 137                | --    | 161       | 75,000  | 8,240  | 47,000    |
| Thailand                | 34                  | --     | --        | --                          | --    | --        | 124                | --    | 58        | 18,700  | 1,590  | 22,500    |
| Venezuela               | --                  | --     | --        | --                          | --    | --        | 860                | --    | 6         | 27      | --     | 25        |
| Other                   | 341                 | 1,560  | 1,800     | 220                         | 5     | 531       | 181 r/             | 5     | 285       | 3,030   | 70     | 770       |
| Total                   | 239,000             | 27,100 | 162,000   | 35,100                      | 2,170 | 33,700    | 29,500             | 1,590 | 19,800    | 217,000 | 16,400 | 141,000   |

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 16  
U.S. COPPER SCRAP TRADE 1/

(Metric tons, gross weight)

| Country or<br>territory | Imports   |       |           |         |        |           | Exports   |        |           |          |        |           |
|-------------------------|-----------|-------|-----------|---------|--------|-----------|-----------|--------|-----------|----------|--------|-----------|
|                         | Unalloyed |       |           | Alloyed |        |           | Unalloyed |        |           | Alloyed  |        |           |
|                         | 1996      |       |           | 1996    |        |           | 1996      |        |           | 1996     |        |           |
|                         | 1995      | Oct.  | Jan.-Oct. | 1995    | Oct.   | Jan.-Oct. | 1995      | Oct.   | Jan.-Oct. | 1995     | Oct.   | Jan.-Oct. |
| Belgium                 | 11        | --    | --        | 294     | --     | --        | 2,730     | 109    | 8,570     | 3,030    | 81     | 1,200     |
| Canada                  | 36,600    | 4,010 | 32,700    | 64,600  | 5,620  | 49,000    | 110,000   | 9,400  | 84,400    | 42,600   | 3,950  | 34,900    |
| Chile                   | 9,270     | 997   | 9,740     | 66      | --     | 129       | --        | --     | --        | 7        | --     | 5         |
| China                   | --        | --    | --        | 21      | --     | 62        | 28,000    | 1,200  | 11,300    | 50,100   | 1,910  | 22,100    |
| Colombia                | 325       | 26    | 471       | 1,280   | 21     | 2,370     | --        | --     | --        | 9        | --     | 3         |
| Costa Rica              | 848       | 80    | 1,110     | 524     | 16     | 348       | --        | --     | --        | --       | --     | --        |
| Dominican Republic      | 702       | 62    | 449       | 1,860   | 119    | 1,680     | --        | --     | --        | --       | --     | --        |
| Germany                 | --        | --    | 4         | 64      | --     | 122       | 1,580     | --     | 3,280     | 4,310    | 141    | 4,710     |
| Hong Kong               | --        | --    | --        | 23      | --     | 114       | 31,400    | 2,030  | 24,800    | 30,900   | 3,640  | 40,200    |
| India                   | --        | --    | --        | --      | --     | --        | 7,020     | 96     | 3,800     | 42,500   | 2,770  | 24,700    |
| Japan                   | --        | 2     | 2         | 124     | 16     | 51        | 20,000    | 1,790  | 15,700    | 16,700   | 1,700  | 14,500    |
| Korea, Republic of      | --        | --    | --        | 14      | --     | --        | 10,300    | 155    | 4,450     | 24,100   | 834    | 9,240     |
| Mexico                  | 32,800    | 2,110 | 24,300    | 50,500  | 3,180  | 36,700    | 6,470     | --     | 2,450     | 1,710    | 168    | 3,740     |
| Panama                  | 1,170     | 80    | 819       | 776     | 140    | 940       | --        | --     | --        | --       | --     | --        |
| Peru                    | 166       | 21    | 643       | 116     | 256    | 692       | --        | --     | --        | 6        | --     | 612       |
| Switzerland             | --        | --    | --        | --      | --     | --        | 17        | --     | 2,760     | 140      | --     | 18        |
| Taiwan                  | --        | 3     | 59        | 2,940   | 108    | 1,220     | 1,680     | 160    | 894       | 3,730    | 246    | 3,890     |
| Thailand                | --        | --    | --        | 8       | --     | 36        | --        | --     | 37        | 2,490    | 214    | 1,930     |
| United Kingdom          | 111       | --    | (2/)      | 201     | 179    | 1,170     | 338       | --     | 194       | 2,810    | 77     | 351       |
| Venezuela               | 3,260     | 68    | 2,380     | 2,860   | 113    | 2,100     | --        | --     | --        | 22       | --     | 40        |
| Other                   | 2,830     | 276   | 2,640     | 7,290   | 692    | 6,870     | 3,570     | 14     | 532       | 8,220 r/ | 185    | 5,840     |
| Total                   | 88,100    | 7,730 | 75,300    | 134,000 | 10,500 | 104,000   | 223,000   | 15,000 | 163,000   | 233,000  | 15,900 | 168,000   |

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.